

Association between Students' Inattentiveness to Study and their Psychological Conditions during the COVID-19 Pandemic

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Abstract: While the COVID-19 pandemic has adverse effects on the state of mental health of the individuals, no attention has been paid so far in the academia whether there is an association between students' inattentiveness to study and their psychological conditions during the COVID-19 pandemic. As such, the study was intended to find out the association between students' inattentiveness to study and their psychological conditions during this pandemic. Primary data for this study were collected from a total of 157 samples chosen from the undergraduate students of 18 academic departments of the Noakhali Science and Technology University (NSTU), Bangladesh on the basis of snowball sampling. The study reveals that most of the respondents were much inattentive to study during the COVID-19 pandemic and they were much anxious, depressed, tensed, restless, bored and frightened, and thereby their mental health and well-being were affected. The study shows that there is a strong positive association between the students' inattentiveness to study and their psychological conditions which involve anxiety, depression, tension, restlessness, boredom and fear/panic. The study indicates that the association between the students' inattentiveness to study and their psychological conditions is statistically significant. Finally, the study suggests that the Government and the authority concerned should undertake proper measures to mitigate the adverse psychological conditions of the NSTU students by means of motivations and psychosocial counselling, and thereby keeping up their attentiveness to study during the pandemic or any other critical situation. As such, there is a crying need for establishing a psychosocial counselling centre or an educational counselling centre in all universities of Bangladesh including the NSTU.

Keywords: The COVID-19, Pandemic, Psychological Conditions, Mental Health, Psychosocial Counselling

1. Introduction

The COVID-19 has become a rising key global public health concern these days. It is one of the most serious challenges the world has been facing in recent times. More than two hundred countries and territories of the world have been affected by this virus. People are dying at shocking rates. Given its speedy transmission among the people across the globe and the intensity of its adverse multidimensional effects, the COVID-19 outbreak has been viewed as a pandemic (Hagerty & William, 2020; Suppawittaya, Yiemphat, & Yasri, 2020; Zhang & Ma, 2020). Hence, the global community has taken up several preventive methods or containment measures including 'lockdown', 'shutdown' and 'social distancing' to limit the speedy transmission of this virus and reduce its fatal effects. However, these containment measures have disrupted social interactions, social relations and caused social isolations (Artaza, 2020; Banerjee & Rai, 2020; Need Assessment Working Group [NAWG], 2020).

As such, the COVID-19 pandemic has caused severe consequences not only on people's physical health but also on their psychological conditions and mental health (Banna et al., 2020; Bhat et al., 2020; Dubey et al., 2020; Elmer, Mepham, & Stadtfeld, 2020; Hagerty & William, 2020; Li, Wang, Xue, Zhao, & Zhao, 2020; Liu et al., 2020; Rajkumar, 2020; Suppawittaya, et al., 2020; Zhang & Ma, 2020). The prevention methods of the COVID-19 have also jeopardized labour markets, employments, incomes, livelihoods and food security all over the world and thereby pushing millions of people into acute hunger and extreme poverty (International Labour Organization [ILO], 2020a, 2020b; United Nations [UN], 2020a, 2020b, 2020c). The COVID-19 pandemic has destabilized various forms of social and economic institutions throughout the world. However, its impact on global learning is the most devastating as the world is still passing through a learning crisis. The COVID-19 pandemic has caused the biggest disruption in education systems in history which has affected almost 1.6 billion learners in more than 190 countries and all continents. Closures of schools and other learning spaces have adversely affected 94% of the world's student population (UN, 2020d). This has adversely affected the mental health and well-being of the students (Elmer, et al., 2020; Islam, Barna, Raihan, Khan, & Hossain, 2020; Khan et al., 2020).

Like other countries, the education system of Bangladesh has been seriously affected since the onset of coronavirus transmission across the globe and the students have been suffering much due to this pandemic. All educational institutions have been closed since mid-March, 2020. Therefore, all sorts of academic activities of the educational institutions irrespective of school, college and university have been seriously disrupted. The Finance Minister of Bangladesh stated in his budget speech that nearly 40 million Bangladesh students have been affected with the discontinuation of their regular academic curriculum during the COVID-19 outbreak (Uddin, 2020). The Government of Bangladesh has identified some impacts on education arising out of the COVID-19 pandemic such as learning loss due to discontinuation, increased risk of learning outcomes and assessments, increased in drop-out rates, and so on (Government of Bangladesh, 2020). Moreover, the closures of educational institutions and several preventive methods during the COVID-19 pandemic have badly impacted students' mental health by causing several psychological changes among them (Islam et al., 2020; Khan et al., 2020). In response to prevention measures and school closures, online classes are being conducted on a small scale. However, the students are reluctant to participate in their online classes, hampering learning activities further. While the available literature shows that the COVID-19 pandemic has adverse effects on students' mental health and well-being, no focus has been paid so far in the academic world, especially in Bangladesh context to investigate the association between the students' inattentiveness to study and their psychological conditions. As such, the study mainly aims to examine the association between the students' inattentiveness to study and their psychological conditions during the COVID-19 pandemic. In line with its central objective, the study has set the following three research queries:

- a) To find out the extent to which the students are inattentive to their study
- b) To investigate psychological conditions of the students during the COVID-19 pandemic
- c) To examine the nature and significance of association between the students' inattentiveness to study and their psychological conditions during the COVID-19 pandemic

2. Methodology

2.1 Research design and participants

The study was principally a survey conducted in Noakhali Science and Technology University (NSTU) – a public university in Bangladesh in view of the present context and the researchers' interests. Of 30 academic departments under six faculties and two institutes of the NSTU, 18 were purposively selected for this research. A total of 157 respondents undertaking undergraduate courses at the 18 academic departments were sampled on the basis of snowball sampling – a type of non-probability sampling. Since the researchers did not have a sampling frame in hand while undertaking the study, non-probability sampling was duly selected for the convenience of the researchers. Table 1 presented below shows the respondents' socio-demographic characteristics in terms of four variables – department, sex, academic year, and age.

Table 1. Respondents' socio-demographic characteristics

Variables		Frequency	Percent (%)
Department	AGR	8	5.1
	BGE	7	4.5
	BLWS	9	5.7
	CSTE	8	5.1
	ECO	6	3.8
	EDU	10	6.4
	EEE	8	5.1
	ENG	15	9.6
	ESDM	7	4.5
	FIMS	7	4.5
	LAW	10	6.4
	MATH	9	5.7
	MICRO	6	3.8
	MIS	10	6.4
	OCEAN	6	3.8
	PHARM	8	5.1
	SOC	14	8.9
THM	9	5.7	
	Total	157	100.0
Sex	Male	60	38.2
	Female	97	61.8
	Total	157	100.0
Academic Year		Frequency	Percent (%)
	1Y	16	10.2
	2Y	36	22.9
	3Y	62	39.5
	4Y	43	27.4
	Total	157	100.0
Age	Mean	Median	SD
	21.50	22.00	1.294

Source: Fieldwork, July/August, 2020

Table 1 shows that most of the respondents were chosen from the English (ENG) Department (9.6%) followed by the Sociology (SOC) Department (about 9%). However, the Management Information Systems (MIS) Department, and the Education (EDU) Department and the Law Department each shared 6.4% of the number of respondents. The Bangladesh and Liberation War Studies (BLWS) Department, the Mathematics (MATH) Department and the Tourism and Hospitality Management (THM) Department each shared 5.7% of the number of respondents. The Agriculture (AGR) Department, the Computer Science and Telecommunication Engineering (CSTE) Department, the Electrical and Electronic Engineering (EEE) Department and the Pharmacy (PHARM) Department each shared 5.1% of the respondents. It is evident that the Biotechnology and Genetic Engineering (BGE) Department, the Environmental Science and Disaster Management (ESDM) Department, the Fisheries and Marine Science (FIMS) Department each shared 4.5%, the Economics (ECO) Department, the Microbiology (MICRO) Department and the Oceanography (OCEAN) Department each 3.8% of the number of respondents. It is found that roughly 61.8% of the respondents were females and the rest (38.2%) were males. Most of the respondents were 3rd year (39.5%), followed by 4th year (27.4%), 2nd year (about 23%) and 1st year (10.2%) students. The mean and median ages of the respondents were 21.50 and 22.00 years respectively while the standard deviation (SD) of their age was 1.294 years.

2.2 Measurement and Data collection Tools

The ordinal scale, especially the 5-point Likert type scale was used to measure the psychological conditions of the students. The psychological conditions were measured by using six variables such as anxiety, depression, tension, restlessness, boredom and fear or panic. On the scale, 1 indicated ‘not at all’, 2 indicated ‘slightly’, 3 indicated ‘moderately’, 4 indicated ‘much’, and 5 indicated ‘very much’ reflecting the degree of psychological changes of the students during the COVID-19 pandemic. The study used both the primary and secondary sources of data. Given the nationwide lockdown caused by the COVID-19 pandemic, primary data for this study were collected through telephone interview using a structured questionnaire from July 5, 2020 to August 10, 2020. Since the study was mainly quantitative in nature, no formal interview protocol was used by the researchers. However, while interviewing, the respondents were duly informed of the purpose of the study and asked the questions very carefully so that they could understand the questions clearly and respond to them accordingly. In contrast, secondary data were gathered from various secondary sources including journal articles, newspapers, research reports, policy briefs, and so on.

2.3 Data analysis Techniques

After collecting primary data, they were edited and compiled very carefully. Descriptive statistics including frequency distributions, percentages and graphical presentation were used to describe and summarize the data. As noted earlier, six instruments corresponding to six variables were used to judge the degree of psychological conditions of the students during the COVID-19 pandemic. The *Cronbach’s* alpha was applied so as to find out the internal consistency or the reliability of the items of the measurement. The *Cronbach’s* alpha Coefficient was .933 (greater than .70) which indicated that the items of scales in the measurement were reliable (Taber, 2017). Since the data pertaining to the students’ psychological conditions were measured on an ordinal scale, the study duly used the Gamma test to find out the nature and significance of the association between the students’ inattentiveness to study and their psychological conditions during the COVID-19 pandemic (Nachmias & Nachmias, 2008). The study viewed the students’ inattentiveness to study as a dependent variable whereas the variables pertaining to the psychological conditions of the students during the COVID-19 pandemic are viewed as independent variables. The study sought to validate the following research hypotheses as shown in Table 1:

Table 1. Research hypotheses and null hypotheses

No.	Research Hypotheses(H _a)	Null Hypotheses (H ₀)	Statistical Test
1	There is an association between the students’ inattentiveness to study and their anxiety during the COVID-19 pandemic	There is no association between the students’ inattentiveness to study and their anxiety during the COVID-19 pandemic	Gamma
2	There is an association between the students’ inattentiveness to study and their depression during the COVID-19 pandemic	There is no association between the students’ inattentiveness to study and their depression during the COVID-19 pandemic	Gamma
3	There is an association between the students’ inattentiveness to study and their tension during the COVID-19 pandemic	There is no association between the students’ inattentiveness to study and their tension during the COVID-19 pandemic	Gamma
4	There is an association between the students’ inattentiveness to study and their restlessness during the COVID-19 pandemic	There is no association between the students’ inattentiveness to study and their restlessness during the COVID-19 pandemic	Gamma

No.	Research Hypotheses(H _a)	Null Hypotheses (H ₀)	Statistical Test
5	There is an association between the students' inattentiveness to study and their boredom during the COVID-19 pandemic	There is no association between the students' inattentiveness to study and their boredom during the COVID-19 pandemic	Gamma
6	There is an association between the students' inattentiveness to study and their fear/panic during the COVID-19 pandemic	There is no association between the students' inattentiveness to study and their fear /panic during the COVID-19 pandemic	Gamma

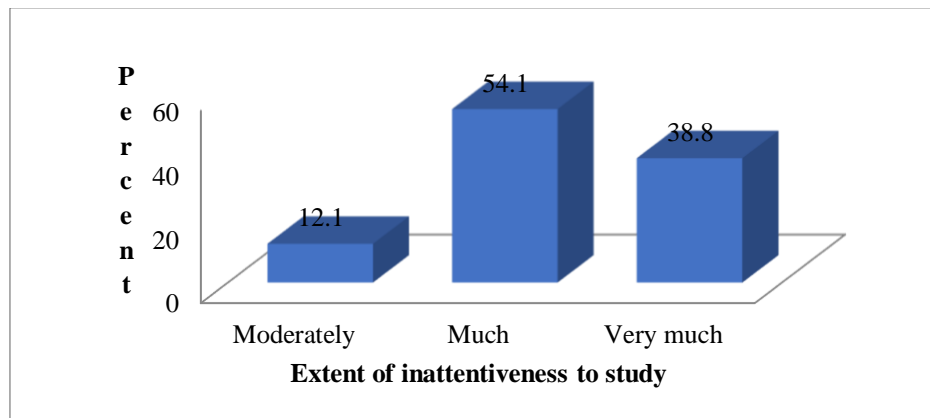
3. Findings

Table 2 and Chart 1 presented below show the extent to which the students are inattentive to their study during the COVID-19 pandemic.

Table 2. The students' inattentiveness to study during the COVID-19 pandemic

Extent of attentiveness to study	Frequency	Percent (%)
Moderately	19	12.1
Much	85	54.1
Very much	53	33.8
Total	157	100.0

Chart 1. The students' inattentiveness to study during the COVID-19 pandemic



As can be seen in above Table 2 and Chart 1, most of the respondents (roughly 54%) reported that they were much inattentive to study during the COVID-19 pandemic while 38.8% of them were very much inattentive and roughly 12% of them were moderately inattentive to study during this pandemic. Hence, it may be inferred that most of the students of the NSTU were much inattentive to study during the COVID-19 pandemic.

Table 3 shown below describes the psychological conditions of the students during the COVID-19 pandemic. As mentioned earlier, the psychological conditions of the students were measured by six indicators such as anxiety, depression, tension, restlessness, boredom and fear/panic.

Table 3. The students' psychological conditions during the COVID-19 pandemic

No.	Psychological Conditions	Slightly		Moderately		Much		Very much	
		F	%	F	%	F	%	F	%
1	The extent to which the students are anxious during the COVID-19 pandemic (anxiety)	-	-	25.0	15.9	81.0	51.6	51.0	32.5
	Total	N= 157, Percent = 100.0							
2	The extent to which the students are depressed during the COVID-19 pandemic (depression)	1	0.6	52.0	33.1	68.0	43.3	36.0	22.9
	Total	N= 157, Percent = 100.0							
3	The extent to which the students are tensed during the COVID-19 pandemic (tension)	1	0.6	38.0	24.2	76.0	48.4	42.0	26.8
	Total	N= 157, Percent = 100.0							
4	The students the students are restless during the COVID-19 pandemic (restlessness)	1	0.6	49.0	31.2	70.0	44.6	37.0	23.6
	Total	N= 157, Percent = 100.0							

5	The extent to which the students are bored during the COVID-19 pandemic (boredom)	1	0.6	16.0	10.2	89.0	56.7	51.0	32.5
	Total	N= 157, Percent = 100.0							
6	The extent to which the students are frightened during the COVID-19 pandemic (fear/panic)	-	-	27.0	17.0	79.0	50.3	51.0	32.5
	Total	N= 157, Percent = 100.0							

As shown above in Table 3, with regard to anxiety, the majority (51.6%) of the respondents reported that they were much anxious during the COVID-19 pandemic while 32.5% of the respondents reported that they were very much anxious. However, about 16% of the respondents reported that they were moderately anxious. As to depression, the majority (43.3%) of the respondents said that they were much depressed during this pandemic while 33% of the respondents said that they were moderately depressed. About 23% of the respondents reported that they were very depressed while only 0.6% of the respondents reported that they were slightly depressed during this pandemic. With regard to tension, the majority (48.4%) of the respondents reported that they were much tensed during the COVID-19 pandemic while nearly 27% of the respondents reported that they were very much tensed. Roughly 24% of the respondents reported that they were moderately tensed while only 0.6% of them reported that they were slightly tensed during this pandemic.

Regarding restlessness, the majority (44.6%) of the respondents reported that they were much restless during this pandemic while about 23.5% of the respondents reported that they were very much restless. Roughly 31% of the respondents reported that they were moderately restless while only 0.6% of them reported that they were slightly restless. As to boredom, the majority (56.7%) of the respondents reported that they were much bored while 32.5% of the respondents reported that they were very much bored during this pandemic. About 10% of the respondents reported that they were moderately bored during this pandemic while only 0.6% of them were slightly bored. Finally with regard to fear/panic, the majority (50.3%) of the respondents reported that they were much frightened while 32.5% of the respondents reported that they were very much frightened during this pandemic. However, about 17% of the respondents were found to be moderately frightened during this pandemic. Hence, the study inferred that most of the students of the NSTU were much anxious, depressed, tensed, restless, bored and frightened during this pandemic and thereby affected their mental health adversely.

Table 4 presented below shows the hypotheses testing results which describe the association between the students' inattentiveness to study and their psychological conditions. As noted earlier, the students' psychological conditions were measured by six indicators. The study applied the Gamma test to find out the nature and significance of the association between the students' inattentiveness to study and the corresponding variables pertaining to their psychological conditions.

Table 4. Hypotheses testing results

No.	Research hypotheses (H _a)	Statistical Test	Value	Degree of Association	Alpha-value	p-value
1	There is an association between the students' inattentiveness to study and their anxiety during the COVID-19 pandemic*	Gamma	.956	Strong	0.01	.000
2	There is an association between the students' inattentiveness to study and their depression during the COVID-19 pandemic*	Gamma	.982	Strong	0.01	.000
3	There is an association between the students' inattentiveness to study and their tension during the COVID-19 pandemic*	Gamma	.989	Strong	0.01	.000
4	There is an association between the students' inattentiveness to study and their restlessness during the COVID-19 pandemic*	Gamma	.838	Strong	0.01	.000
5	There is an association between the students' inattentiveness to study and their boredom during the COVID-19 pandemic*	Gamma	.971	Strong	0.01	.000
6	There is an association between the students' inattentiveness to study and their fear/panic during the COVID-19 pandemic*	Gamma	.977	Strong	0.01	.000

*Statistically significant at 99% confidence level [p -value < 0.01]

Table 3 presented above shows that all research hypotheses corresponding to the association between the students' inattentiveness to study and their psychological conditions were accepted at 99% confidence level. It is evident that there is a strong positive association between the students' inattentiveness to study and their anxiety during the COVID-19 pandemic since the Gamma value is .956. In this regard, the study observed that the association between the students' inattentiveness to study and their anxiety during the COVID-19 pandemic is statistically significant since the p-value (.000) is less than the alpha value of 0.01. It is evident that there is a strong positive association between the students' inattentiveness to study and their depression during the COVID-19 pandemic since the Gamma value is .982. In this regard, the study observed that the association between the students' inattentiveness to study and their depression during the COVID-19 pandemic is statistically significant since the p-value (.000) is less than the alpha value of 0.01.

It is evident that there is a strong positive association between the students' inattentiveness to study and their tension during the COVID-19 pandemic since the Gamma value is .989. In this regard, the study observed that the association between the students' inattentiveness to study and their tension during the COVID-19 pandemic is statistically significant since the p-value (.000) is less than the alpha value of 0.01. There is a strong positive association between the students' inattentiveness to study and their restlessness during the COVID-19 pandemic since the Gamma value is .838. In this regard, the study observed that the association between the students' inattentiveness to study and their restlessness during the COVID-19 pandemic is statistically significant since the p-value (.000) is less than the alpha value of 0.01. It is noticeable that there is a strong positive association between the students' inattentiveness to study and their boredom during the COVID-19 pandemic since the Gamma value is .971. In this regard, the study observed that the association between the students' inattentiveness to study and their boredom during the COVID-19 pandemic is statistically significant since the p-value (.000) is less than 0.01. Finally, it is evident that there is a strong positive association between the students' inattentiveness to study and their fear/panic during the COVID-19 pandemic since the Gamma value is .977. In this regard, the study observed that the association between the students' inattentiveness

to study and their fear/panic during the COVID-19 pandemic is statistically significant since the p-value (.000) is less than 0.01.

4. Discussion

Based on empirical evidence, the present study puts forward three important inferences: First, the psychological conditions of the students have changed much during the COVID-19 pandemic in Bangladesh. The students have become much anxious, depressed, restless, bored and frightened and thereby their mental health has been adversely affected during this pandemic. As such, the findings of the study have been supported by the findings presented by several studies (Banna et al., 2020; Bhat et al., 2020; Dubey et al., 2020; Elmer et al., 2020; Islam et al., 2020; Khan et al., 2020; Li et al., 2020; Liu et al., 2020; Rajkumar, 2020; Suppawittaya et al., 2020; Zhang & Ma, 2020). Second, the students have become much inattentive to their study during this pandemic which reflects their mental illness. However, the students' inattentiveness to study during this pandemic has not been previously highlighted in the academia. Third, there is a strong positive association between the students' inattentiveness to study and their psychological conditions; and the association between the students' inattentiveness to study and their psychological conditions is statistically significant. However, the association between the students' inattentiveness to study and their several psychological conditions during this pandemic has not been previously investigated empirically. In short, the study argues that the present COVID-19 pandemic situation in Bangladesh has adversely affected the mental health of the students by causing several psychological conditions such as anxiety, depression, tension, restlessness, boredom, and fear/panic among them which are positively associated with their increase of inattentiveness to study. Each of the variables pertaining to the psychological conditions of the students has a significant positive association with the increase of their inattentiveness to study. The association between the students' inattentiveness to study and their psychological conditions can be depicted in **Fig.1**.

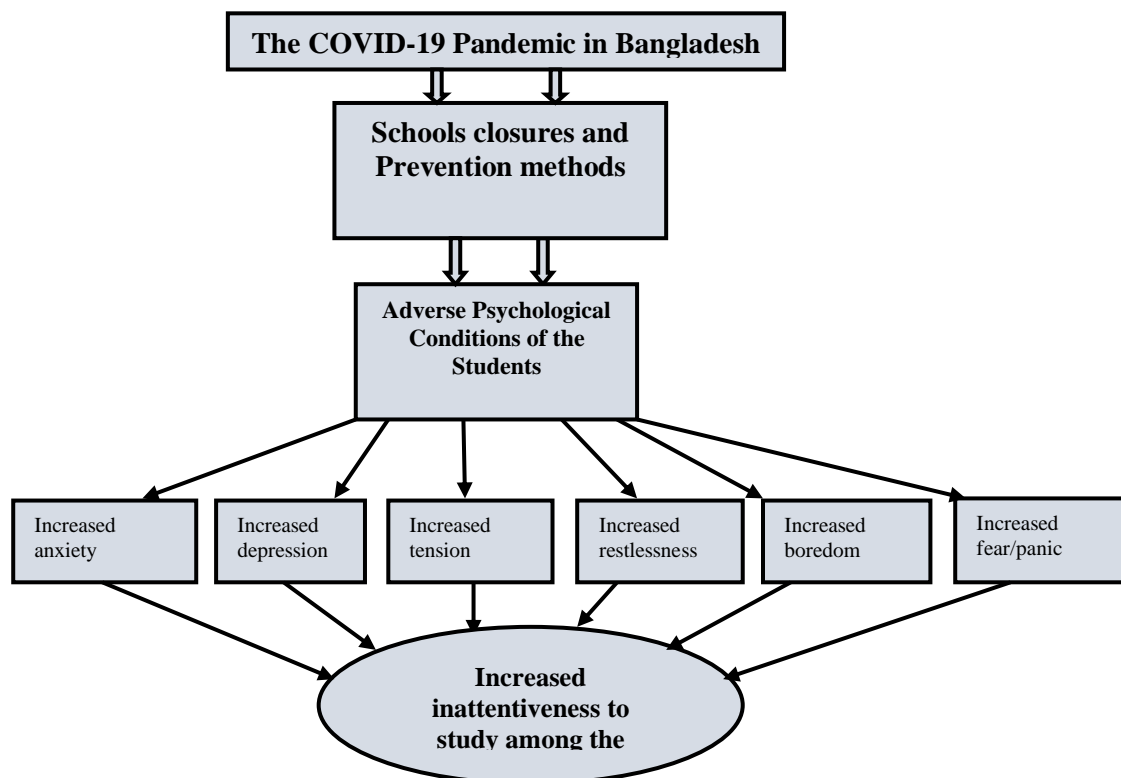


Fig. 1 Association between the students' inattentiveness to study and their psychological conditions

As shown above in Fig.1, like most of the countries of the world, Bangladesh is going through a critical situation. In view of the horrifying situation, all educational institutions have been closed and several prevention methods have been adopted. Thus, the present COVID-19 situation of Bangladesh has caused adverse effects on the psychological conditions of the students. As noted earlier, the psychological conditions involve anxiety, depression, tension, restlessness, boredom and fear/panic which have increased and adversely impacted the students' mental health and well-being and the state of mind. Consequently, they have become much reluctant and inattentive to their study. Since the study reveals that the students' anxiety, depression, tension, restlessness and boredom have increased during this pandemic and thereby their mental health and well-being have been affected, the findings of the study are in line with the findings presented by several researchers in Bangladesh context (Islam, et al., 2020; Khan et al., 2020). Moreover, some other studies are available in the academia pertaining to the psychological effects or the state of mental health of the individuals during the COVID-19 pandemic in Bangladesh (Banna et al., 2020; Bodrud-Doza, Shammi, Bahlman, Islam, & Rahman, 2020; Islam, Bodrud-Doza, Khan, Haque, & Mamun, 2020). While the findings of the present study are similar with the findings of the above studies in that the COVID-19-pandemic has resulted in increased anxiety, depression, tension, fear/panic and boredom among the individuals, they have not focused on the students' mental health during this pandemic. Moreover, unlike the present study, the available studies have not examined the extent to which the students have become inattentive to study during this pandemic and investigated whether there is any association between the students' inattentiveness to study and their several psychological conditions during the COVID-19 pandemic.

5. Conclusion

From the empirical findings of the study, it may be argued that the psychological conditions of the students are getting worse during the COVID-19 pandemic that has led to their inattentiveness to study. Since the increase in anxiety, depression, tension, restlessness, boredom and fear during the COVID-19 pandemic are positively associated with the increase in inattentiveness to study among the students, it may be inferred that the COVID-19 pandemic has an adverse impact on the students' mental health which has a positive bearing on their inattentiveness to study. As such, there is a need for proper policy implications to address the issue. The results of this study can be a valuable source of indications for the policymakers to take effective measures during the pandemic or any other similar type of situation. In this context, proper psychosocial counselling can play a pivotal role for the students to keep up their motivation and attentiveness to study. Psychosocial councillors or educational councillors should be appointed in all universities of Bangladesh including the NSTU so that the students can get proper counselling or advice during any pandemic situation or any other critical situation. Moreover, the class teachers and the bodies concerned should maintain proper communication with the students and provide them with individual counselling if necessary during the pandemic. Finally, it may be stated that the Government and the authority concerned should undertake proper measures including individual psychosocial counselling and motivations to reduce the students' anxiety, depression, tension, boredom, restlessness and fear/panic during the pandemic which would keep up their mental health and well-being, and thereby allowing them to enhance their attentiveness to study.

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